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B. ANTHONY STEWART

FROM HIS FOUR-FOOTED MARKET, THIS GREEK ISLANDER MAKES A SALE BENEATH THE SUN-SOAKED WALLS OF MÝKONOS IN THE AEGEAN (Bulletin No. 5)

Bulletin No. 1, October 6, 1947

Cosmopolitan Singapore Gets New Status

A NEW constitution for Singapore, now a British Crown Colony politically separated from the rest of Malaya, recently promised increased self government for the native peoples of this famous island and port of southeast Asia.

Singapore rates the "cosmopolitan" adjective as much as any spot on earth. Among the polyglot crowds that swarm the city's streets (illustration, next page) are Chinese, Malays, Indians, Arabs, Javanese, Burmese, Tibetans, English, and Americans.

Meeting ocean liners in its busy harbor are cargo-laden tramps from the ends of the earth, broad Chinese junks, and Malay sampans with high, curved sterns and bows wearing sinister painted eyes "so the vessels can see where they are going."

People Mostly Chinese

Just north of the Equator, off the tip of the Malay Peninsula, the green, sultry island of Singapore is about 25 miles long and 14 miles at its widest. Its great port is on the southern, open-sea side, at the south end of the Strait of Malacca.

The British naval base, once considered the last word in powerful defense, is on the northern shore, where the narrow Johore Strait cuts off the island from the mainland. It was over the causeway across this strait that the Japanese came in 1942.

Singapore island had an estimated 1941 population of about three-quarters of a million. Chinese are far in the majority, the result of tremendous immigration in recent years. Most of them have settled in the city of Singapore. The next-largest group is made up of the rurally-inclined Malays, followed by the Indian segment.

To most world travelers, Singapore means the port city, with its silk and jewelry bazaars, its bobbing rickshas, gilded night spots, and ornate temples and mosques dedicated to the numerous Eastern gods (illustration, inside cover).

British Since 1819

Its name calls up pictures of bearded, turbaned Hindus and British "Tommies" in sun helmets; of snake charmers and fanatics walking barefoot through red-hot coals; of swooping seaplanes and huge sheltered piers, handling some of Asia's richest commerce.

It is like passing into another world to go from the noisy, sign-plastered streets of the cluttered Chinese sections into the handsome residential districts and European business area, with its clubs and shops.

Singapore has been a British possession since 1819, when it was bought by the farseeing empire-builder, Sir Stamford Raffles, for the East India Company. The name of Raffles is honored in streets and monuments, in museum and library.

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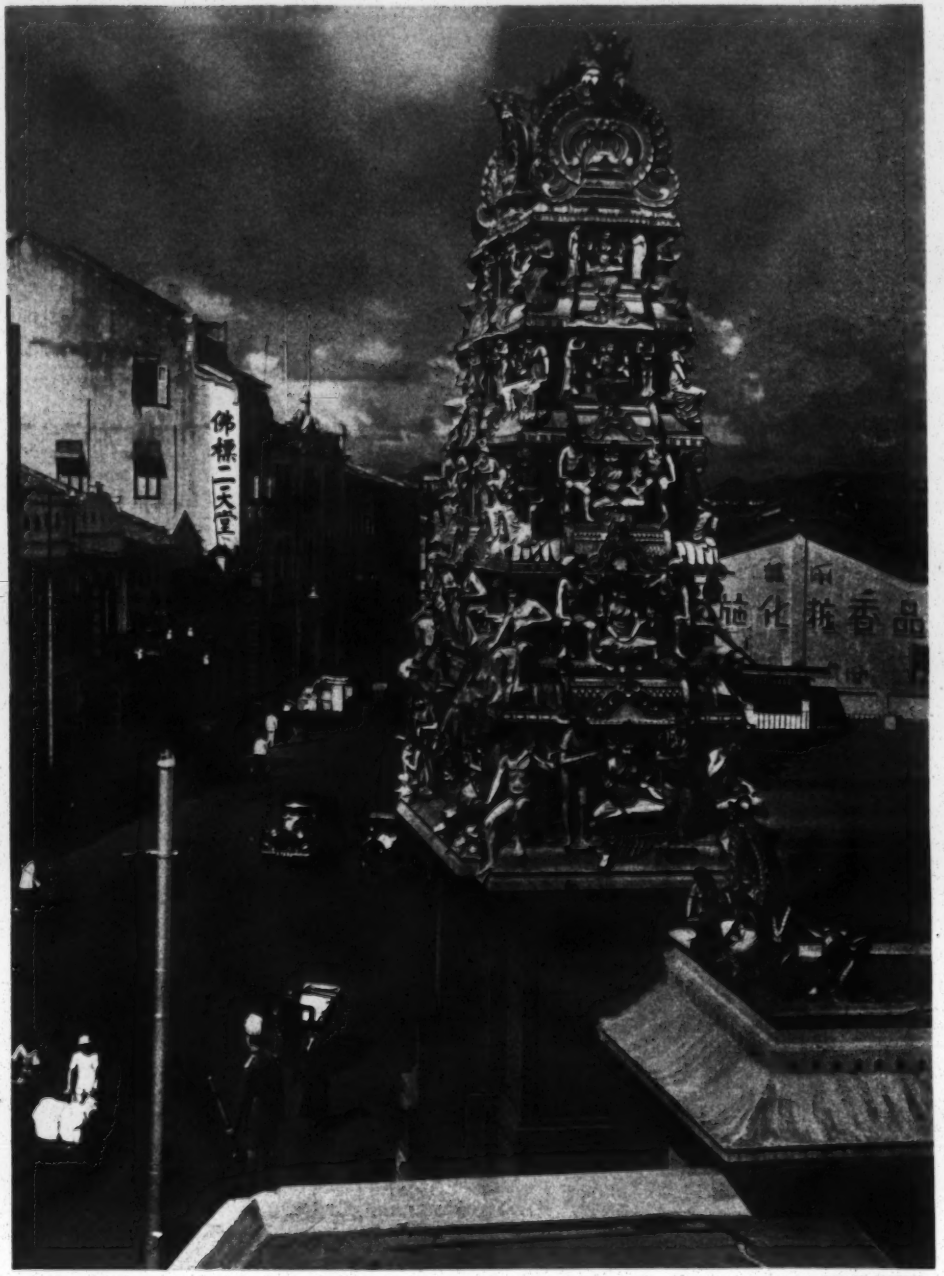

J. BAYLOR ROBERTS

A CATARACT OF WRITHING STATUARY SPILLS DOWN THE TIERS OF THIS WEIRD SINGAPORE TEMPLE

Four-headed women with their feet in their laps, unclothed men, girls with parrots and fly swatters, flower-garlanded cows, and armed soldiers decorate the tower of the Sri Mariamman shrine. Located in a Chinese section, this Hindu temple attracts fanatics who walk through pits filled with red-hot coals (Bulletin No. 1).

Bulletin No. 2, October 6, 1947

Gateway Guayaquil Ships Ecuador's Products

FROM the gateway port of Guayaquil, where Ecuador's summer political unrest centered, such distinctive products as "Panama" hats, balsa wood, and chocolate move into world markets.

This commercial capital of the mountainous republic has "shifted into high gear." Its port and business sections are modernized and attractive. Its population has moved up toward 180,000, making it Ecuador's largest city. It has about 30,000 more residents than has Quito, capital of the country.

True Home of "Panama" Hat

Guayaquil lies about 40 miles up the Guayas River from the Gulf of Guayaquil, the one important gulf on South America's west coast. The port is 780 miles south of the Panama Canal, which shortens the water distance between Guayaquil and New York by 9,000 miles.

Puná Island, almost corking the gulf, forms a buffer from the ocean for boats of every description in the Guayas estuary. Along Guayaquil's 2½-mile waterfront, ocean liners and freighters meet balsa rafts and dugout canoes from tropical jungles far upstream. They carry cacao, beans, coffee, sugar, tobacco, fruits, rubber, balsa wood, cinchona bark (the source of quinine), and the popular "Panama" hats.

Ecuador's toquilla straw forms the fiber of these hats, which acquired their name because they were regularly shipped by way of Panama. And on the Andean plateau, the white man first came upon the white, or "Irish," potato, which became Irish not until long after its transplantation from South America to Spain.

Behind Guayaquil's waterfront esplanade (illustration, next page) stand consulates, business houses, warehouses, and shipping offices, with concrete steadily supplanting old frame imitations of European architecture. Running inland from the river is Guayaquil's "Fifth Avenue," scene of a fashion parade of automobiles and pedestrians after church each Sunday. Its name, Ninth of October Boulevard, commemorates the city's declaration of independence from Spain on October 9, 1820.

Jungle Surrounds the City

Guayaquil, until 28 years ago, was ravaged by yellow fever. Its trade declined as foreign ships stayed away from the "Pacific pesthole." Under the direction of the retired United States Surgeon-General William C. Gorgas and the Rockefeller Foundation, the dread scourge was completely stamped out by 1920. Although Guayaquil is now a healthful city, it is pleasantest during the dry season, from May to December.

General Gorgas used the same methods that he had previously employed to clear Cuba and Panama of yellow fever. The success of his work in Panama made possible the construction of the Panama Canal.

All around the city is jungle, which, with plantation and desert areas, makes up Ecuador's coastal bulge. Inland lies the Sierra with its double ridge of Andes peaks, where most of the republic's 3,000,000 inhabitants

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Singapore's strategic location on the world's great shipping routes has made it a valuable holding in war or peace. It is a natural distribution center for the surrounding region's rubber, tin, quinine, and such other tropical products as pineapples, copra, rice, cotton, and spices.

The decision to fortify Singapore was reached by Great Britain after World War I when a mutiny broke out among the Indian troops guarding the vital port. French, Japanese, and Russian ships rushed to help put down the "revolt." This incident convinced England of the necessity of a Far East naval base.

A seven-section pontoon dock was towed to Singapore in 1928. Ten years later the great base was completed. It had a floating drydock, a stationary one, antiaircraft batteries, antisubmarine nets, and powerful guns sweeping the sea.

Before the recent change in status, Singapore was the capital of the Straits Settlements Crown Colony. The Straits Settlements portion of the Malaya mainland, together with the rest of the peninsula, has been reorganized as the Malayan Union.

NOTE: Singapore may be located on the Society's Map of Southeast Asia.

For further information, see "Life Grows Grim in Singapore," in the *National Geographic Magazine* for November, 1941*; "Behind the News in Singapore," July, 1940*; "Singapore: Far East Gibraltar," May, 1938*; "Fire-Walking Hindus of Singapore," April, 1931; and "Singapore, Crossroads of the East," March, 1926.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, October 8, 1945, "Singapore, City of the Lion, a Commercial Outpost Once More."

SCREEN TRAVELER, FROM GENDREAU

LIKE AMERICAN SCHOOLGIRLS, EAST INDIANS IN SINGAPORE LET THEIR SHIRTTAILS HANG

In place of blue jeans these pedestrians wear skirted sarongs or white trousers. On their heads are turbans, not beanies. They represent the large Indian segment of the cosmopolitan Far Eastern port's population. The sidewalk they are swinging along is on Battery Road, a shopping street leading from Raffles Place (Square) to Battery Point, in the oldest section of the city.

Bulletin No. 3, October 6, 1947

Liberia Celebrates Centennial as Republic

LIBERIA, observing this year a century of independence, is the only republic in Africa. It shares with Haiti the distinction of being one of the only two Negro republics in the world.

Liberia's founding and development were unique. The century-old nation was established by the American Colonization Society as a home for freed slaves.

The original settlers who set out from Maryland in the early 1820's bought land from the natives with much the same type of "coin" as that used by the Dutch two centuries before when they purchased Manhattan Island from the Indians. The African aborigines accepted from these American immigrants a down payment consisting of an even more varied assortment—knives, forks, and spoons; muskets and powder; mirrors, umbrellas, nails, soap, and hats!

Cousin of a U. S. President Was Last White Governor

Set up on the southwest corner of Africa's Atlantic bulge, the colony remained a project of the society, aided by the United States government, until 1847, when it declared its independence.

Among the men who had a hand in the development of Liberia were Jehudi Ashmun, a white American, for whom the chief residential street of Monrovia, the capital city, was named; Robert Gurley, who contrived the country's name from the word liberty; and Thomas Buchanan (whose cousin James later became president of the United States), last white governor. He was succeeded by Joseph Roberts, the Virginia-born octoroon who became the first colored executive of the colony.

Roberts brought about widening of Liberia's boundaries and improvement of economic conditions. It was during his term of office that the colony declared itself an independent republic. A constitution, patterned on that of the United States, was adopted and Roberts was elected president.

Liberia is bordered on the north by the British colony of Sierra Leone and by French Guinea, and France's Ivory Coast hems it in on the east. There are two distinct sections, the civilized coast with its silk-hat formalities and whitewashed business buildings, broad-verandaed dwellings and flower-framed cottages, and the wild country beyond, ruled by tribal chiefs.

American Speech and Coinage Used

Because of this largely untamed wilderness, Liberia's eastern boundaries are somewhat vague and its area has not been accurately estimated. It is generally considered to be from 40,000 to 43,000 square miles in extent—about the size of Ohio.

Early American politics echoes in the name of Liberia's "True Whig Party." English is the official language, spoken in the coastal areas. A street in Monrovia is named Broadway. American money has been used since 1942, although Liberian coins of silver and copper circulate.

Liberia's position opposite the bulge of Brazil made it useful as a

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still live. The third distinct division is the Oriente (east), where present boundaries with Peru were arranged with the aid of an international commission as recently as 1942.

North of Guayaquil 155 miles, the Equator traverses the northern part of the country. Ecuador, in Spanish, means equator.

Towns and farms line the railroad and highway that traverse Ecuador's north-south plateau between ridges. The railroad in its course from Guayaquil to Quito (280 miles) climbs 9,371 feet from sea level.

Quito, though practically on the Equator, enjoys a perpetual spring-like climate because of its altitude. It is one of the few places so near the Equator in which Europeans can comfortably live.

About half of Ecuador's people are of mixed Spanish and Indian blood. A fourth are pure-blooded Indians. Whites, Negroes, and mixtures make up the remainder. Spanish is the most-used language.

NOTE: Ecuador is shown on the Society's Map of South America.

For additional information, see "From Sea to Clouds in Ecuador," in the *National Geographic Magazine* for December, 1941; "Mrs. Robinson Crusoe in Ecuador," February, 1934; and "Volcanoes of Ecuador," January, 1929.

See also "A Slice of Ecuador's Oriente Now Part of Peru's Montana," in the GEOGRAPHIC SCHOOL BULLETINS, October 8, 1945.

JAMES C. SAWDERS

ANCIENT GUAYAQUIL'S MODERN WATERFRONT WELCOMES SHIPS FROM MANY LANDS

Guayaquil is a contradictory city. Traces of its Spanish origin linger in the design of the buildings and the speech of the people, although Ecuador was freed from Spain more than a century ago. A modernized waterfront belies the city's 400 years of history. Buildings of dazzling white or the pastel tints characteristic of tropical towns line the landward edge of the Malecón Simón Bolívar, popular promenade along the river. Pirate raids and several disastrous fires have left few traces of the original city, founded in 1535 by the followers of Francisco Pizarro, the Spanish conquistador.

Bulletin No. 4, October 6, 1947

Corn Valuable and Ancient American Crop

THE United States' most valuable crop—corn—has been growing in the Western Hemisphere for untold centuries.

When Columbus came to the New World, the Mayas, Aztecs, Incas, and other Indian peoples long had been raising corn for their principal food. That is why the grain, known in the Old World as maize, is often called Indian corn. Now it is produced in more areas throughout the world than any other grain.

Corn Belt from Ohio to Nebraska

Although corn is grown in all 48 states, the rolling plains of the Upper Mississippi Valley raise the bulk of the crop, which for a decade has averaged well over two and a half billion bushels a year. Insufficient rainfall is expected to keep the 1947 yield far below the government goal of three billion bushels.

Frost, which arrived at an unusually early date, was a late summer threat to the crop in the northern Midwest.

The rich black soil covering the "corn belt" from Ohio into Nebraska is primarily responsible for this golden stream of grain. Hot summer days and nights, combined with plenty of moisture, shoot the stalks high above a man's head and fill the ears with firm, nutty kernels. Iowa leads in production, with Illinois second.

In the last 30 years the United States yield has been greatly increased by the development of hybrid seed. Selected varieties are inbred and then crossbred to obtain large, uniform ears that resist drought and blight. Yields of 90 bushels an acre from hybrid seed are not unusual; the return is often nearly double that produced by ordinary seed (illustration, next page).

The corn plant is a highly developed grass. It contains both male and female properties in each plant. The tassel at the top of the stalk generates pollen which falls to the "silk." This fertilizes it and produces an ear.

Plant Developed in Peru or Mexico

To grow hybrid seed corn, alternate rows of sturdy varieties are planted. When tassels appear, they are cut off all rows of one type so that the de-tasseled plants are fertilized by the pollen from the other variety. This produces a crossbreed combining the best qualities of the two selected plants. New hybrid seed corn is grown every year by this scientific method.

Corn is entirely unlike any other crop. It has few relatives in the plant world. It readily crosses with the Mexican grass teosinte and was once thought to have evolved from this parent plant. Now it is generally believed that corn developed originally either in Mexico or Peru at a time when the wandering tribes of Europe were still utter savages.

For United States people, most of the field corn—as distinguished from the small crop of sweet corn—is turned into meat, milk, and eggs. The grain fattens cattle, hogs, and poultry, and thus goes to market "on

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base for the Atlantic air-ferry service during World War II. Through the port of Monrovia (now being modernized with American funds) poured rubber for the Allies from plantations begun by an American rubber company more than twenty years ago. American troops were stationed there.

Although Monrovia is connected by airline with Lagos and Dakar, Liberia has no railroads and only about 200 miles of public roads. The only towns of any size are along the coast. There are about 200 schools and Monrovia is the site of Liberia College, a government institution.

Little more than 20 miles back from the coast, in a rugged region of hills and jungles, a million or more "bush" natives live in thatched-hut villages. In remote districts vine bridges sway between steep-walled gorges to tie the ends of trails. The rubber industry (illustration, below) brought about the building of roads into the back country. Modern machinery was introduced. Natives acquired pidgin English. A few have learned to drive trucks and use tools.

Besides rubber, fertile Liberia's natural resources include gold, iron, diamonds, palm products, mahogany, and a lush list of tropical plants. The chief exports are rubber, gold, and piassava, a tough fiber of the palm.

NOTE: Liberia is shown on the Society's Map of Africa.

For further information, see "Land of the Free in Africa," in the *National Geographic Magazine* for October, 1922; and "Liberia, Africa's First Republic, Repays the U. S. with Bases," in the GEOGRAPHIC SCHOOL BULLETINS, November 20, 1944.

AMERICAN-PLANTED RUBBER TREES CARPET LIBERIA'S PLATEAU LAND

Like tufts of yarn marking a design on a candlewick bedspread, Hevea trees pattern rolling miles of tropical Liberia. On the landscaped lawn of a clearing in the vast rubber plantation stands the house of the American manager of this 4,000-acre division of the enormous Firestone Plantations Company. In 20 years this enterprise has grown to be Liberia's biggest business, employing 25,000 natives under the supervision of a staff of 150 Americans. As only native Liberians may own land, the company leases an extensive property with an option on a million acres.

Bulletin No. 5, October 6, 1947

Legend and Fact Merge in Greek Islands

POLITICAL unrest which is rocking the Greek mainland recently sent ripples of disturbances over at least two of the ancient country's myriad islands—Crete and Mytilēnē. Such other offshore bits of Greece as Mýkonos (illustration, cover), Náxos, and Skýros have been relatively untouched by trouble.

In Crete, Greece's largest island, current events merge with classical legend. An advanced civilization arose there nearly 5,000 years ago. Modern excavations along the north shore have revealed King Minos' intricate palace of Cnossos. It is believed to hold the Labyrinth in which the mythical Theseus slew the half-man, half-bull Minotaur.

Icarus Died to Name Sea

When the Germans in 1941 unleashed against Crete history's first such airborne invasion, this Labyrinth was recalled as the legendary birthplace of flying. There, the myth went, the imprisoned architect and inventor, Daedalus, fashioned man's earliest wings in order to escape with his son, Icarus.

Icarus, the story continued, flew too close to the sun. The wax that held his wings in place melted, and he fell into the sea between Patmos, Leros, and the Asiatic coast. These southeast Aegean waters have since borne his name (Icarian Sea).

Crete stretches a slim land bar, 160 miles long, athwart strategic routes of the eastern Mediterranean. It lies on the road to Palestine and Egyptian ports, to the Suez Canal gateway, and the Aegean-Dardanelles key to the Black Sea.

Rocky and mountainous, Crete is about twice as big as Long Island, New York. Its barrenness is relieved by patches of fertile plains and green valleys (illustration, next page). Olives, fruits, grains, tobacco, and cotton grow abundantly under the hot Mediterranean sun.

Home of Fruitcake Ingredient

At Mount Ida, where the ancients believed that Zeus, king of the gods, was born, the island's mountain spine rises to a peak more than a mile and a half high. During the German occupation, such rugged uplands, with their hidden caves, provided guerrilla hideouts for the resistance movement.

Postwar rehabilitation in Crete includes the rebuilding of a substantial export trade. One of the Cretan specialties was citron, used in many an American fruitcake. Grapes, wine, olive oil, soap, cheese, almonds, oranges, and lemons are normally shipped from the island which Homer described as a rich, fair land in a wine-dark sea.

Crete's long and eventful history, during which it was a valuable and sometimes rebellious possession of Romans, Venetians, Arabs, and Turks, has left its mark on the island.

Remains of Venetian walls and fortifications still rise at Crete's bomb-battered capital, Canea (Khania), and at its largest city, Hērákleion (Candia). Although the Moslem proportion has declined among the more

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the hoof." It takes a bushel of corn to produce approximately eleven pounds of pork.

Just as meat packers boast that they utilize every part of the pig but the squeal, farmers and chemists have found uses for the entire corn plant from kernels to stalks. Even the tassels make nourishing livestock feed. Quantities of leaves and stalks, packed into silos, provide ensilage (fodder) for winter feeding.

Corn syrup, sugar, salad oil, and starch line pantry shelves. In addition, many industrial products are being developed. The starch supplies gum for stamps and envelopes. From the cobs comes "mazolith," a stone almost indistinguishable from marble. Soap, glycerin, and dynamite are made from the oil. A protein called zein is extracted for coatings and plastics. But amid these new chemical creations, corncob pipes retain their popularity!

J. BAYLOR ROBERTS

WHERE THE TALL CORN GROWS, HYBRIDIZATION MAKES FOR BIG EARS AND LOTS OF THEM

From hybrid seed this field produced 90 bushels to the acre, about twice the yield from ordinary seed kernels. The farm is in west-central Iowa, practically a continuous cornfield.

than 400,000 islanders, Turkish influence lingers in mosques and minarets. It is seen in the baggy trousers of the men, and the women's embroidered jackets and pantaloons.

Mytilēnē (Lesbos), near the Turkish coast, is one of the largest Greek islands. On the trade route to the Dardanelles (Hellespont), it became important in earliest times. Lyric poetry was its great contribution to ancient Greek culture. In the seventh and six centuries B.C. the "Lesbian Nightingale," Sappho, exercised almost dictatorial influence on the literature of her era. She was even called the tenth Muse.

NOTE: Greece and its islands are shown on the National Geographic Society's Map of Europe and the Near East, and Classical Lands of the Mediterranean. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

See also "The Isles of Greece," in the *National Geographic Magazine* for May, 1944*; "The Greek Way," "Greece—the Birthplace of Science and Free Speech," and "The Glory That Was Greece" (32 paintings), March, 1944* (the foregoing articles are available as a reprint bound in heavy stock, at 75¢ a copy, or 60¢ a copy if ordered in lots of 50 or more); "Classic Greece Merges Into 1941 News," January, 1941*; and "Modern Odyssey in Classic Lands," March, 1940. (*Issues marked with an asterisk are included in a special list of Magazines available to teachers in packets of ten for $1.00.*)

MAYNARD OWEN WILLIAMS

TOWARD BARREN MT. IDA CRETAN SHEPHERDS TAKE THEIR FLOCKS THROUGH AN OLIVE ORCHARD